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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,938	09/01/2006	Sebastien Bardon	0525-1035	4642
<div>465 7590 12/17/2008 YOUNG &amp; THOMPSON 209 Madison Street Suite 500 ALEXANDRIA, VA 22314</div>			<div>EXAMINER SHUMATE, ANTHONY R</div>	
			<div>ART UNIT 1797</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE 12/17/2008</div>	<div>DELIVERY MODE PAPER</div>

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/583,938

**Applicant(s)**

BARDON ET AL.

**Examiner**

ANTHONY SHUMATE

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2006 and 01 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-34 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 22 June 2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Summary***

1. This is the initial Office action based on the 10/583,938 application filed 22 June 2006.
2. The preliminary amendment filed 22 June 2006 has been entered and fully considered.
3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
4. Claims 1-17 are cancelled.
5. Claims 18-34 are pending and have been fully considered.

### ***Oath/Declaration***

6. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:  
It does not identify the citizenship of each inventor. French is not a country.

### ***Drawings***

7. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because numerous reference characters have been designated for more than one component per reference character. Each failure of multiple components for each reference characters will not be mentioned because of the high occurrence of this failure. The failures are largely directed to the numbers used in figure 7, since most of these numbers are used for multiple components. An example of this failure is reference character "1" has been used to designate both particulate filter and block. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

9. The abstract of the disclosure is objected to because three abstracts have been submitted. One abstract is on page 10, another was submitted on the WO 2005/064132 A1, and a third abstract was submitted on a page with the phrase figure for the abstract: figure 4. Furthermore, it is noted that further objections to the abstract may subsequently follow after selecting an abstract out of the three because at least some of the abstracts contain more than 1 paragraph and contain the inappropriate phrase "said."

Correction is required. See MPEP § 608.01(b).

***Information Disclosure Statement***

10. The information disclosure statement filed 22 June 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 18-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over HIGUCHI et al. (US 4,364,760) in view of KOTANI et al. (US 5,629,067).

For instant **claim 18**, HIGUCHI et al. teaches at the abstract, figure 2, figure 3, and column 9 lines 15-40 a honeycomb filter with a plurality of flow channels for the internal combustion engine exhaust gases, each of the channels being bounded by a side wall, a plug and an opening terminating outwardly.

Also for instant **claim 18**, KOTANI et al. teaches at the abstract and figure 1 a similar honeycomb filter device.

Also for instant **claim 18**, KOTANI et al. teaches a technique at the abstract, figure 1, figure 4 and figure 5 wherein a first portion of the side wall of at least one of the grooves (channels), comprises a coating (reinforcement) compared to the rest of the side wall forming a second portion of the side wall.

Additionally for instant **claim 18**, KOTANI et al. teaches a technique at the abstract, figure 1, figure 4, figure 5 and column 10 lines 1-20 wherein the thickness of the honeycomb wall (first portion) is 150  $\mu\text{m}$  (0.150mm), and the thickness of the coating (second portion) is in a range of about 0.1-1 mm.

As well for instant **claim 18**, it is the examiner's position that the ratio of the thickness of the honeycomb wall (first portion) of 150  $\mu\text{m}$  (0.150mm) to the thickness of the coating (second portion) of a range of about 0.1-1 mm, in a transverse plane of section, being between about 0.15-1.5 which overlaps the

claimed range of between 1.1 and 3, thereby making a prima facie case of obviousness. (MPEP 2144.05 PART I)

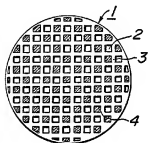
Moreover for instant **claim 18**, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the technique taught by KOTANI et al. to the similar honeycomb filter device taught by HIGUCHI et al. for the benefit of improving the strength of the honeycomb filter which was taught by KOTANI et al. at column 5 lines 10-67 and column 6 lines 1-46.

U.S. Patent Dec. 21, 1982

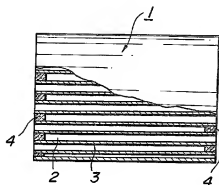
Sheet 1 of 3

4,364,760

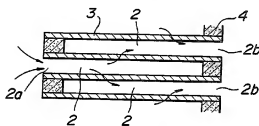
**FIG. 1**



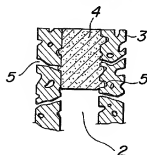
**FIG. 2**



**FIG. 3**



**FIG. 4**





U.S. Patent

May 13, 1997

5,629,067

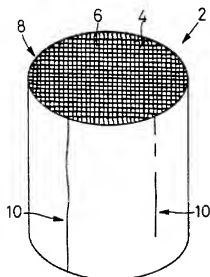


FIG. 1

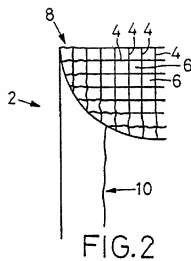


FIG. 2

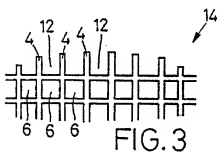


FIG. 3

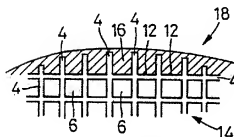


FIG. 4

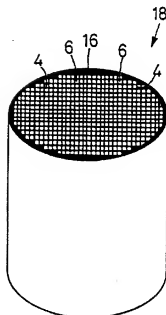


FIG. 5

For instant **claim 19**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5 column 5 lines 10-67, column 6 lines 1-46, and column 10 lines 1-20 a group of the adjacent filled grooves (reinforced channels) arranged so that the first portions of the filled grooves (reinforced channels) form a continuous reinforcing partition.

For instant **claim 20**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5 column 5 lines 10-67, column 6 lines 1-46, and column 10 lines 1-20 wherein the filled grooves (reinforced channels) of the group extend to the periphery of the block.

For instant **claim 21**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5 column 5 lines 10-67, column 6 lines 1-46, and column 10 lines 1-20 wherein the honeycomb wall (first portion) comprises an external face in contact with the exterior of the block.

For instant **claim 22**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5 column 5 lines 10-67, column 6 lines 1-46, and column 10 lines 1-20 wherein the filled grooves (reinforced channels) of the group are arranged so that the coating (reinforcing partition) overlaps a longitudinal edge of the filter block.

For instant **claim 23**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5 column 5 lines 10-67, column 6 lines 1-46, and column 10 lines 1-20 wherein the group of filled grooves (reinforced channels) comprises all the peripheral channels of the block so that the coating (reinforcing partition) surrounds the block, preferably so that the coating (reinforcing partition) is at the external surface of the block.

For instant **claim 24**, KOTANI et al. teaches a technique at the abstract, figure 1, figure 4, figure 5 and column 10 lines 1-20 wherein the thickness of the honeycomb wall (first portion) is 150  $\mu\text{m}$  (0.150mm), and the thickness of the coating (second portion) is in a range of about 0.1-1 mm. Also, it is the examiner's position that the ratio of the thickness of the honeycomb wall (first portion) of 150  $\mu\text{m}$  (0.150mm) to the thickness of the coating (second portion) of a range of about 0.1-1 mm, in a transverse plane of section, being between about 0.15-1.5 which overlaps the claimed range of between 1.1 and 3, thereby making a prima facie case of obviousness. (MPEP 2144.05 PART I)

Also for instant **claim 24**, KOTANI et al. does not specifically teach wherein the ratio is constant irrespective of the transverse plane of section considered. It would have been obvious to one having ordinary skill in the art at the time the invention was made to wherein the ratio is constant irrespective of the transverse plane of section considered, since it has been held that where the

general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (MPEP 2144.05 PART II-A)

For instant **claim 25**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5 column 5 lines 10-67, column 6 lines 1-46, and column 10 lines 1-20 wherein the coating (reinforcement) is in a longitudinal plane of sections of the block. Also, KOTANI et al. does not specifically teach wherein the coating (reinforcement) is substantially constant in any longitudinal plane of section of the block. But, it would have been obvious to one having ordinary skill in the art at the time the invention was made to wherein the coating (reinforcement) is substantially constant in any longitudinal plane of section of the block, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (MPEP 2144.05 PART II-A)

For instant **claim 26**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5 column 5 lines 10-67, column 6 lines 1-46, and column 10 lines 1-20 wherein the coating (reinforcement) for the filled grooves (reinforced channels) of the group in transverse plane of sections and/or in longitudinal planes. Also, KOTANI et al. does not specifically teach wherein the coating (reinforcement) is substantially constant for all the filled grooves (reinforced

channels) of the group in any transverse plane of section and/or in any longitudinal plane. But, it would have been obvious to one having ordinary skill in the art at the time the invention was made to wherein the coating (reinforcement) is substantially constant for all the filled grooves (reinforced channels) of the group in any transverse plane of section and/or in any longitudinal plane, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (MPEP 2144.05 PART II-A)

For instant **claim 27**, KOTANI et al. teaches a technique at the abstract, figure 1, figure 4, figure 5 and column 10 lines 1-20 wherein the thickness of the honeycomb wall (first portion) is 150  $\mu\text{m}$  (0.150mm), and the thickness of the coating (second portion) is in a range of about 0.1-1 mm.

Also for instant **claim 27**, it is the examiner's position that the ratio of the thickness of the honeycomb wall (first portion) of 150  $\mu\text{m}$  (0.150mm) to the thickness of the coating (second portion) of a range of about 0.1-1 mm, in a transverse plane of section, being between about 0.15-1.5

Additionally for instant **claim 27**, KOTANI et al. does not specifically teach wherein the ratio R is between 1.9 and 2.1 But, it would have been obvious to one having ordinary skill in the art at the time the invention was made to wherein the ratio R is between 1.9 and 2.1, since it has been held that where the general

conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (MPEP 2144.05 PART II-A)

Furthermore, for instant **claim 27**, it is the examiner's position that the following claim language is optional and does not limit the scope of the claim based upon MPEP 2106 and the claim language is preferably is substantially equal to 2.

For instant **claim 28**, HIGUCHI et al. teaches at the abstract, figure 2, figure 3, and column 9 lines 15-40 at least one filter block.

For instant **claim 29**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 5 lines 10-67, column 6 lines 1-46, and column 10 lines 1-20 an extrusion die conformed to form, by extrusion of a clay (ceramic material), a structure provided with grooves (channels) suitable for the fabrication of a filter block, the structure comprising the reinforcement.

For instant **claim 30**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 5 lines 10-67, column 6 lines 1-46, column 10 lines 1-20 and column 15 lines 35-60 extrusion of a clay (ceramic material) to form a porous honeycomb structure.

Also for instant **claim 30**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 5 lines 1-67, column 6 lines 1-46,

column 10 lines 1-20 and column 15 lines 35-65 application of a reinforcement of a material, identical or different from the cordierite ceramic material, to at least part of the external surface of the porous structure.

Additional for instant **claim 30**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 4 lines 50-65, column 5 lines 10-67, column 6 lines 1-46, column 10 lines 1-20 and column 15 lines 35-60 drying and firing (sintering) of the porous structure to obtain a filter block.

For instant **claim 31**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 4 lines 50-65, column 5 lines 10-67, column 6 lines 1-46, column 10 lines 1-20 and column 15 lines 35-60 drying the porous structure. Also, KOTANI et al. does not specifically teach a step for drying said porous structure between steps a) and b). But, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a step for drying said porous structure between steps a) and b), since it has been held that a mere change in the sequence of adding ingredients involves only routine skill in the art. (MPEP 2144.04 PART IV-C)

For instant **claim 32**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 4 lines 50-65, column 5 lines 10-67, column 6 lines 1-46, column 10 lines 1-20 and column 15 lines 35-60 a step of grinding (machining) the porous structure. Also, KOTANI et al. teaches at the

abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 4 lines 50-65, column 5 lines 10-67, column 6 lines 1-46, column 10 lines 1-20 and column 15 lines 35-60 drying the porous structure. Additionally, KOTANI et al. does not specifically teach a step for machining the dried porous structure obtained before step b). But, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a step for machining the dried porous structure obtained before step b), since it has been held that a mere change in the sequence of adding ingredients involves only routine skill in the art, and it has been held that a mere change in the proportions involves only routine skill in the art. (MPEP 2144.04 PART IV-A AND IV-C)

For instant **claim 33**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 4 lines 50-65, column 5 lines 10-67, column 6 lines 1-46, column 10 lines 1-20 and column 15 lines 35-60 the coating (reinforcement) material is applied at least to part of the external surface having been grinded (machined).

For instant **claim 34**, KOTANI et al. teaches at the abstract, figure 1, figure 4, figure 5, column 2 lines 5-50, column 4 lines 50-65, column 5 lines 10-67, column 6 lines 1-46, column 10 lines 1-20 and column 15 lines 35-60 a filter block. Also, KOTANI et al. does not specifically teach a filter body by assembling a plurality of filter blocks. But, it would have been obvious to one having ordinary



skill in the art at the time the invention was made to provide a filter body by assembling a plurality of filter blocks, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. (MPEP 2144.04 PART VI-B)

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY SHUMATE whose telephone number is (571)270-5546. The examiner can normally be reached on M-Th 9-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571)272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Duane S. Smith/

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Supervisory Patent Examiner, Art  
Unit 1797

/A.S./  
Examiner Art Unit 1797